COMPANY EXPERIENCES WITH AUTOMATION

Survey No. 46
of
BNA's
PERSONNEL POLICIES®

FORUM

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What Is The Personnel Policies Forum?

The Editors of The Bureau of National Affairs have invited representative personnel and industrial relations executives to become members of the 1957 Panel of the PERSONNEL POLICIES FORUM. These panel members are top personnel officials in all types of companies, large and small, in all branches of industry and all sections of the country.

At regular intervals throughout the year BNA editors ask the members of the Panel to outline their policies and procedures on some important aspect of employment, industrial relations, and personnel problems. From these replies, the editors complete a survey report on the problem, showing prevailing practices, new wrinkles and ideas, and cross-section opinion from these top-ranking executives.

In many cases, the comments, suggestions, and discussions are reproduced in the words of the Panel members themselves. In effect, survey users are sitting around a table with these executives and getting their advice and experience on the major problems in this field facing all companies this year.

Results of each PERSONNEL POLICIES FORUM survey made during 1957 are printed in a special survey report which is sent, as part of the service, to users of these BNA labor reports:

Labor Relations Reporter
White Collar Report
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The 1957 Panel

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COMPANY EXPERIENCES WITH AUTOMATION

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INTRODUCTION

This is the final survey conducted among executives serving on the 1957 Panel of BNA's Personnel Policies Forum. The study is based on responses from Panel members representing 89 companies.

To all members of the 1957 Panel, The Bureau of National Affairs, Inc., wishes to express its appreciation for the cooperation they have extended during this series of surveys. From the many comments we have received, and the widespread recognition given to the different survey reports as they have appeared, we are convinced that the Personnel Policies Forum has made a significant contribution to the profession of personnel administration.

BNA is also pleased to announce that these surveys will be continued throughout 1958. A completely new Panel for 1958, composed of personnel and industrial relations executives from all sections of the country, will be announced in the near future.

SUMMARY

For purposes of this survey, automation was defined as "a marked acceleration in the rate of mechanization, accompanied (at times) by the introduction of machines that "think" and regulate themselves."

It is not possible to make a precise statement on the extent to which automation has taken place in firms represented by the Forum. However, one fact that does emerge is the pronounced introduction of automation in performing accounting functions; this trend is noted in companies in almost every type of industry. As for automation in operating and service departments, such developments are far less common and depend on the particular industry and/or company involved.

The effects of automation touch many aspects of company operation. A decrease in the total number of employees is reported by about two fifths of larger companies and three fifths of smaller ones. The number of hours worked per week by individual employees has declined in about one fifth of larger firms and one eighth of smaller ones. Skill levels required of the work force have gone up in two thirds of the larger and three fourths of the smaller firms reporting. Personnel costs are believed to be lower in three fifths of larger companies and one eighth of smaller firms, while one sixth of larger firms report them to be higher. More training, both of employees and of supervisors, is taking place in the majority of companies. Jurisdictional problems with unions as a by-product of automation are reported by a fifth of the larger firms. And wage rates have undergone revision--generally upwards--in almost three fifths of the companies participating in the survey.

Nearly all of the companies polled have succeeded in absorbing those employees displaced by automation. For the most part, the problem has been solved by reduced hiring, effecting transfers, and retraining; there has also been some work-sharing. Employees who could not be absorbed have in many cases been awarded severance pay to tide them over.

Human relations problems--for example, the effects of automation on employee job satisfaction, tensions, and teamwork--have not arisen in a considerable majority of the firms surveyed. However, about a fourth of companies that have had some experience with automation report some degree of employee resistance to the changes; such resistance has been more formidable when spearheaded by unions representing the employees.

Educating employees to accept automation is carried on through all the regular communications channels. One approach frequently taken is to stress the company's need to remain competitive. On another tack, some companies have found it advisable to speak of mechanization and disown the term "automation," which has become a scare word for many employees.

(In the preceding paragraphs and in the more detailed discussion that follows, "smaller" company refers to an individual firm or plant with 1,000 or fewer employees, while "larger" company refers to one with over 1,000 employees.)

EXTENT OF AUTOMATION

Automation was defined, for purposes of this study, as "a marked acceleration in the rate of mechanization, accompanied (at times) by the introduction of machines that 'think' and regulate themselves."

Because of the relative character of this definition, replies of Panel members permit no precise statement as to the proportion that have had experience with automation. Some members described mechanization in their firms as "semi-automation." Still others cited an increasing amount of mechanization in the past but did not specify whether there had been any marked acceleration in the rate. Illustrating this inexactness are the following statements by members of the Forum:

> It is difficult to make a definite appraisal of the extent to which automation has taken place in our company. Ours is a product line that does not lend itself to radical changes in production methods. We maintain a methods engineering department and improvements in tooling and the utilization of jigs, fixtures, and special machinery are constantly being considered and put into effect.--Emil J. Koe, Industrial Relations Director, Illinois Tool Works, Chicago, Ill.
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> During the past eight or nine years, practically all of the bakery equipment and machines have been replaced gradually to the extent that we now have a semi-automatic operation: mechanical and automatic handling of pans, batter, finished products, etc.--Harriet Ehrhart, Personnel Director, Kingston Cake Company, Inc., Kingston, Pa.
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> A very few machines have been introduced which automatically perform assembly and inspection operations on small units. Like most manufacturing concerns, we have gradually added automatic and semi-automatic metal working machines over the past few years. This, however, is not automation as commonly understood today.--Donald S. Jones, Industrial Relations Director, Bendix Aviation Corp., Sidney, New York.
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> Automation in our company has taken place only to the extent that normal progress with modern methods and machines have replaced obsolete procedures.--Personnel executive, larger eastern company.
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> We have been highly mechanized for many years. Our mechanization has constantly been increased and improved.--Industrial relations executive, larger southern company.
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> While our factories have installed the latest high-speed mechanical equipment and although we are constantly improving our methods, we have not introduced automation on any of our production and packaging lines.--Harold L. Colvins, Industrial Relations Manager, the Nestlé Co., Inc., White Plains, N.Y.

Of the 89 firms that participated in the survey, some 56 percent had negligible experience, or none, with automated operations as defined in this survey. A little less than half the remainder had a limited amount of experience, while the rest had experience ranging from moderate to substantial.

Introduction of automation has been most marked in the area of accounting. Companies in every branch of industry report the use of IBM and other tabulating equipment for such functions as payroll,

billing, inventory keeping, order writing, and the like. Automation in operating departments of manufacturing and service companies is more spotty, being heavy in those industries and phases of production that lend themselves most readily to automatic machinery. The following statements by Panel members suggest this impact:

> We have, over a period of years, installed some electronic equipment in our steel operations, but they have played a very minor role up to this time. We have made more extensive use of the newer type of machine in our accounting operations through the expansion of our IBM units to include electronic calculators and the like.... We have been engaged for approximately three years in a fairly comprehensive research program designed to study the possible application of the more complex computers to our operations, but our actual use of such devices has been limited almost exclusively to an experimental program. We believe at this stage we will undoubtedly move in the direction of using more electronic equipment, but will develop a gradual process if we are to make economic use of these new developments.--G. E. Balsley, Industrial Relations Manager, Kaiser Steel Corp., Oakland, Calif.
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> Automation has taken place in our company to a marked extent in some phases or departments--for example, substitution of mechanized raw material handling for largely manual operations. It has taken place to a lesser degree in other phases where fundamental processes remain unchanged but the rate of productivity has been accelerated and/or instrumentation has been substituted for human inspection in control of processes.--Hugh A. Black, Industrial Relations Director, The Mead Corp. (pulp & paper mfg.), Chillicothe, Ohio.
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> Dial equipment has replaced local and toll operators in small exchanges. IBM equipment has replaced certain manual accounting functions. Generally, IBM equipment produces from source information complete journal entries for labor, material, retirement, salvage, and voucher. As well as computing payroll and printing payroll checks it also computes and prints subscribers' telephone bills.--H.G. Counsman, Personnel Director, General Telephone Co. of Indiana, Inc., Fort Wayne, Ind.
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> Northwest Airlines has ordered and will be using Remington Rand Univac and IBM devices for handling a substantial volume of airline passenger reservations, payroll, accounting, and personnel records.--Robert A. Ebert, Director of Labor Relations, Northwest Airlines, Inc., St. Paul, Minn.
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> Very little automation has taken place in our company. We have tabulating equipment to compute earnings for payroll, a partially automated line in manufacturing areas to tumble parts, and we are working toward a semi-automated chain assembly line.--J.V. Davis, Industrial Relations Manager, Morse Chain Co., Ithaca, N.Y.
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> Our equipment has generally become more automatic by design and the addition of electric sensory instrumentation. However, we have not reached a stage of development where our mechanical equipment "thinks".--Thomas N. Karlen, Personnel Manager, Scott Paper Co., Winslow, Me.
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> Our product is not one of the high volume type and changes are made yearly. Certain limitations, therefore, exist in the application of automated equipment. We do expect to improve our methods, tools, and equipment on a constant basis, but we do not expect to make large and exciting innovations in the automation field that will result in employee displacements. Such improvements as "printed circuitry" are, of course, used in our products. The actual assembly of our products (jukeboxes, custom Hi-Fi sets, and small washing machines) requires a good deal of human skill not readily replaced by mechanical equipment.--R.J. MacIntyre, Industrial Relations Director, Automatic Musical Instruments, Inc., Grand Rapids, Mich.

EFFECTS OF AUTOMATION

Panel members were asked to describe the effects of automation in their respective companies on such things as number of employees, skill levels, training, wage rates, and the like. Their replies are summarized in the following paragraphs. In considering this material, it should be kept in mind that some of the respondents (as noted earlier) have had limited experience with automation as defined in this survey.

Total Number of Employees

Regarding the effect of automation on the total number of employees, no change was reported by roughly 60 percent of the larger companies and 40 percent of the smaller ones answering the question. The remaining firms responding reported a decrease in the total number of employees as a result of automation, ranging from "slight" to fairly considerable. An instance in which the reduction of employees was sizeable is given in the following statement by a Panel member:

> The steady increase in the number of employees would have been substantially greater had it not been for the influence of automation. Had there been no changes in the method of operations it is estimated that the company today would have 2,800 rather than 2,500 employees.--H.B. Counsman, Personnel Director, General Telephone Co. of Indiana, Inc., Fort Wayne, Ind.

Number of Operating Employees

Automation has led to a decrease in the number of operating (production) employees in roughly one half of larger companies and three fourths of smaller firms answering this query. In the remaining firms the number of operating employees has remained unchanged despite automation.

Number of Maintenance Employees

Among companies reporting on automation's effect on the number of maintenance employees, nearly three fifths of the larger firms and all of the smaller ones indicated no change. Over a third of the larger companies had an increase in this category, although one company explained that the increase was due at least partly to over-all expansion of the company's business. One larger firm reported a decrease in the number of maintenance employees in the wake of automation.

Number of Clerical Employees

Automation has had no effect on the number of clerical employees, according to about seven tenths of larger companies and half of smaller firms answering. An increase in the number of clericals is reported by more than one fifth of larger firms and one eighth of smaller ones, while a decrease (in most cases described as a "slight" decrease) occurred in roughly one tenth of larger firms and three eighths of smaller ones. One of the larger firms participating in the survey reports its experience in the following terms:

> Reservations and ticketing have always presented great problems. A machine known as the "Reservisor" has been created to automatically supply information to an agent with respect to (1) space on a flight, (2) posting a reservation, and (3) effecting a cancellation. The electronic machine is capable of storing considerable data and may be used by distant agents through a given area. It undoubtedly has eliminated the need for many clerks as compared to when the work was done by telephone to a central point.--A. Di Pasquale, Labor Relations Director, American Airlines, Inc., New York, N. Y.

Number of Sales Employees

With but one exception, all of the companies reporting indicated that automation has not been accompanied by any change in the number of sales employees. The exception is a smaller firm which reported an increase in the number of salespersons.

Number of Professionals

Automation has not brought about any change in the number of professional employees, according to executives in some three fifths of larger firms and all of the smaller ones reporting. Among the remaining larger firms--roughly two fifths--some increase has taken place in the number of professionals: in a couple of these firms the increase was described as "slight," while in a couple of others the increase was described as "slight", while in a couple of others the increase was held to be primarily the result of over-all expansion rather than a consequence of automation.

Number of Supervisors

Automation has meant no change in the number of supervisors, according to Forum members in about two thirds of larger companies and six sevenths of smaller firms reporting. An increase in the number of

supervisors did take place in roughly a fourth of larger firms and a seventh of smaller ones, while a decrease in the size of the supervisory group took place in a tenth of larger companies.

Number of Executives

That no change has been brought about in the number of executives as a result of automation is the experience of all of the larger firms and all but one of the smaller firms reporting; this one smaller firm cited an increase in the number of executives as an accompaniment of automation.

Number of Employees in Individual Departments

Responses to this question suggest that the most common result of automation in this area has been to decrease the number of employees in one or more individual departments. Roughly two fifths of larger companies and two thirds of smaller firms gave this picture. At the same time, another quarter of larger firms and a third of smaller ones reported no change whatsoever in the number of employees in individual departments. About an eighth of larger firms reported increases in department size, while another fifth have experienced growth in one or more departments offset by decreases in other departments. The full picture is summarized in the table below:

Effect on No. of Employees per Dept.	Larger Companies	Smaller Companies
No change	25 percent	33 percent
Decrease (in one or more depts.)	38 percent	67 percent
Increase (in one or more depts.)	12 percent	--
Increase in one (or more) depts., decrease in other(s)	19 percent	--
"Varies"	6 percent	--

Number of Hours Worked Per Week

Automation appears to have made no difference in the number of hours employees work each week in roughly four fifths of larger companies and seven eighths of smaller ones volunteering information on this point. In the remaining firms the pattern has been a decrease in the number of hours worked weekly by individual employees--in many cases brought about by a cut in overtime.

Number of Shifts Worked Per 24-Hour Period

With only a couple of exceptions, executives answering this part of the questionnaire indicated that no change had taken place in the number of shifts worked per 24-hour period as a consequence of automation. These exceptions are two larger firms, one of which has switched from two shifts to one in some of its plants, while the other has altered the starting times of shifts so they are no longer standard.

Skill Levels Required of the Work Force

Skill levels required of the work force have increased with the advent of automation, according to two thirds of larger companies and three fourths of smaller firms reporting. Nearly all of the remaining companies reported no change in skill requirements. An executive in one larger company, without stating whether skill requirements have increased or not, noted that they have changed, with the emphasis shifting from clerical to scheduling data-processing cards for electronic control and monitoring the operational results.

Personnel Costs

Asked whether automation has led to a proportionate increase or decrease in personnel costs, about one fourth of larger companies and seven eighths of smaller ones reported no change in such costs. Lower personnel costs were reported by roughly three fifths of larger firms and one eighth of smaller ones, while about one sixth of larger companies stated that their personnel costs are proportionately higher in the wake of automation.

Company Organization

Panel members were asked whether automation has brought about more or less centralization of company organization. No change was reported by some two fifths of larger companies and seven eighths of smaller firms. Another two fifths of larger concerns indicated that company organization had become more centralized, while the remaining firms--one fifth of the larger and one eighth of the smaller--noted that it had become less centralized.

Training of Employees

Automation has necessitated more training of employees, according to executives reporting in roughly two thirds of larger firms and two fifths of smaller ones. There has been no change in the amount of training in another quarter of larger companies and half of smaller firms. A tenth of larger companies reported a decrease in the amount of training given to employees, while a tenth of smaller firms reported a decrease in the amount of training for production employees but an increase in the training of maintenance employees.

Training of Supervisors

More training of supervisors has accompanied automation, according to Panel members in about three fifths of larger companies and one half of smaller ones. The rest of the firms reporting on this particular aspect of automation stated that no change has been required in supervisory training.

An illustration of the kind of training being given is as follows:

> A number of supervisors who will head the program are receiving extensive specialized training from manufacturers and schools specializing in automatic equipment.--Robert A. Ebert, Labor Relations Director, Northwest Airlines, Inc., St. Paul, Minn.

jurisdictional Problems with Unions

About four fifths of the larger companies and all of the smaller firms having unions have had no jurisdictional problems with unions as the result of automation, Panel members report. In the remaining (larger) companies, the problems have been one of two kinds: where functions are transferred from bargaining unit jurisdiction to excluded groups; and where two rival unions have disputed representation of certain employees.

Wage Rates

Over two fifths of companies reporting stated that automation had not brought about any change in wage rates. In the remaining companies--comprising a majority--wage rate revisions have been upwards in most instances.

Some examples of company experience in this area include the following:

> Wage rates are generally adjusted upwards as a result of consolidation of job tasks, increased responsibilities, and union insistence upon sharing in the benefits of labor cost efficiency.--Hugh A. Black, Industrial Relations Director, The Mead Corp., Chillicothe, Ohio.
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> We operate a formal job classification program, and each position, as it is changed, is appraised in the light of requirements as to skill, effort, responsibility, and working conditions.--Emil J. Koe, Industrial Relations Director, Illinois Tools Works, Chicago, Ill.
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> The major single project in mechanization in one department, which required over one year while continuing to operate, took place in 1950.... Through this period, although there were some adjustments because of changed job duties, the rates (to be decreased) of operating employees affected remained unchanged for a period of approximately six months. This was done

voluntarily by the company.--Harriet Ehrhart, Personnel Director, Kingston Cake Co., Kingston, Pa.

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In a few production jobs it has been possible to establish lower classifications where skill has been diluted.--Thomas J. Travers, Labor Relations Director, The Commercial Shearing & Stamping Co., Youngstown, Ohio.

Other Effects of Automation

A variety of other effects of automation are noted by personnel-industrial relations executives. Among the desirable effects noted are such things as better control of costs, increased production, flexibility, ability to keep data up to date, and more exact checks on manufacturing processes. Among the undesirable effects noted are the fear of layoffs, especially by industrial-type unions; as well as a morale problem in getting employees to accept the changes.

ABSORBING DISPLACED EMPLOYEES

Nearly all of the companies participating in this phase of the survey said they had been successful in absorbing employees displaced by automation. In general, they have handled the problem by cutting down on hiring, by making transfers, and by retraining. In most cases such action has made layoffs unnecessary.

The remarks below illustrate these various approaches to the problem:

A long-range planning program (involving traffic operating employees only) includes hiring only temporary employees during the year preceding the dial cutover of a central office in any town. Employees who wish to resign during this period are encouraged to remain until the date of the cutover. A minimum force is maintained for providing service up to the company's standards. Months before the cutover date the company and the union negotiate an agreement covering the disposition of the surplus force. Employees are offered transfers to other locations where openings exist or severance pay in lieu of transfers. Laid-off employees are offered re-employment with previous service credit as soon as job opportunities occur within a two-year period.--L.S. Hedgecock, General Personnel Supervisor, The Ohio Bell Telephone Co., Cleveland, Ohio.

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By careful planning--that is, the gradual introduction of the new type machines along with retraining of displaced employees in other departments--we have avoided any discharges to date.--Personnel executive, larger southern company.

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Flexible rules permit employees surplus in one category to transfer to other categories where there are shortages, subject to qualifications. This is most prevalent in categories of maintenance and related classifications.--A. Di Pasquale, Labor Relations Director, American Airlines, Inc., New York, N.Y.

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The employees involved have been either assigned to other clerical duties or promoted into supervisory or management positions.--Donald C. Hall, Assistant Personnel Director, Sterling Faucet Co., Morgantown, W. Va.

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An organization must never release even one employee because of automation. Anticipate changes and relocate the employees. Companies always know their plans in advance, and for that reason should not hire people when it will cause surplus help when machines are installed.--H.C. Lundquist, Personnel Director, White Laboratories, Inc., Kenilworth, N.J.

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Those very few displaced employees have easily been absorbed on other light assembly jobs.--Donald S. Jones, Industrial Relations Director, Bendix Aviation Corp., Sidney, N.Y.

* * *

We have attempted to absorb displaced employees by timing such changes to coincide with other unrelated changes involving increases in the labor force and making use of normal turnover and attrition. We have not been completely successful in this.--Hugh A. Black, Industrial Relations Director, The Mead Corp., Chillicothe, Ohio.

Another device resorted to in some situations to prevent layoffs is work sharing. One company's dissatisfaction with this approach is described in the following comments by a Forum member:

The union contract requires a share-the-work rotational system. No one was completely laid off or severed. This rotational system requires retaining the complete seniority list of "regular" union men so that layoffs are made for only a one-week period. Surplus men are laid off for one week starting at the bottom of the seniority list. The next week these men are recalled and another group laid off for one week, and so forth. This share-the-work system is very disruptive of operations in general and makes the entire work force unhappy, particularly the high-seniority men when their turn comes around. The system has been in the contract many years, and attempts to negotiate it out were unsuccesssful during the last contract negotiations.--Harold H. Wegman, Personnel Director, Bavarian Brewing Co., Inc., Covington, Ky.

A problem in absorbing displaced employees that would be expected to arise only in certain areas was touched upon by one personnel director, who said: "We expect to have some problems of integration since the displaced employees are Negroes."

Policies for Aiding Displaced Employees

Panel members were asked whether they had developed policies for aiding displaced employees. The majority responded that they had been able to absorb all displaced employees within the organization, hence had felt no need for such policies. Among companies which indicated that automation had led to some employee displacement, about half explained that they had formulated a policy to cover the situation, while the other half have not adopted an aid policy

The most common means of assisting displaced employees is the awarding of severance or termination pay; this course is followed by at least five larger companies. One larger firm contacts other employers in an effort to help relocate displaced employees. Another larger company mentions the use of the early retirement (at age 55) option in its pension plan.

HUMAN RELATIONS PROBLEMS

An attempt was made in the survey to discover what human relations problems have accompanied automation--for instance, the effects of automation on such things as employee job satisfaction, tensions, and teamwork. A sizeable majority of those answering indicated that no such problems--or at any rate, none of importance--have arisen. Typical of this majority experience are the following quotes from members of the Panel:

In view of the gradual nature of the transition which we have experienced and expect to continue in the future, we have had no problems of any significance from the standpoint of our union relations or employee relations in this area, nor do we anticipate any in the future.--G.E. Balsley, Industrial Relations Manager, Kaiser Corp., Oakland, Calif.

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In those few areas of automation, employees have readily adapted themselves to the new equipment.--Donald S. Jones, Industrial Relations Director, Bendix Aviation Corp., Sidney, N.Y.

* * *

There was some apprehension on the part of employees, especially about new jobs and future security. However, this was only a temporary situation.--Ross C. Cibella, Personnel Manager, Hagan Chemicals & Controls, Inc., Pittsburgh, Pa.

* * *

Automation has had no effect on our human relations. However, had any one employee suffered loss of job or downgrading, there would have been adverse reactions.--H.C. Lundquist, Personnel Director, White Laboratories, Inc., Kenilworth, N.J.

In those companies in which automation has been accompanied by human relations problems, these have largely concerned fear of layoff or downgrading, changed responsibilities, and added fatigue or monotony of the work. Representative expressions of these problems are given in the following remarks by Forum members:

The operators are unquestionably concerned about their future job assignments, especially since we have had to be vague because of the long period before changeover is completed.--Personnel director, larger midwestern company.

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There is some fear that improved production processes will displace employees or result in downgrading of jobs.--F. W. Salyer, Industrial Relations Director, Collins Radio Co., Burbank, Calif.

* * *

Our problems related to experienced employees we hired from other mills, who in the past had performed their jobs with more people to help and less automatic equipment.--Leonard C. Menius, Personnel Director, East Texas Pulp & Paper Co., Silsbee, Texas.

* * *

Our problem primarily is one brought about by making jobs more routine, resulting in lack of interest. Many times this presents a morale problem.--R.V. Seaman, Jr., Personnel Director, American Hospital Supply Corp., Evanston, Ill.

* * *

Whenever skills begin to change, seniority problems come to the fore, involving bargaining on seniority applications versus qualifications and ability to be qualified.--A. Di Pasquale, Labor Relations Director, American Airlines, Inc., New York, N.Y.

On the other hand, a couple of Panel members point to a lessening of tensions as a direct result of automation. Thus:

Automation has increased job satisfaction because even with the best of teaming, differences would arise every now and then.--Personnel executive, larger southern company.

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Automation has made the physical work of the production jobs easier. Some tensions were relieved by eliminating some old constant arguments on the number of men required by the old system in specific areas.--Harold H. Wegman, Personnel Director, Bavarian Brewing Co., Inc., Covington, Ky.

Resistance to Automation

Only one in every four companies that have had some experience with automation report any resistance to it on the part of employees. In some instances this resistance has been encountered in individual employees, while in other cases the resistance has been channelized through the union representing them. Instances of individual resistance to automation are seen in the following comments by Panel members:

There has been no marked resistance. In select situations concern has been expressed, but when all factors are frankly discussed with such individual we feel such concern largely disappears.--Emil J. Koe, Industrial Relations Director, Illinois Tool Works, Chicago, Ill.

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By its very requisites, under automation people must be more alert. There was resistance at first, but keen interest as they continue to use it and see the value of relieving tedious routine functions.--A.P. Goohs, Plant Manager, The Thew Shovel Co., Lorain, Ohio.

Resistance to automation is more formidable when carried on by unions representing the employees. Examples of such resistance and some ways of coping with it are described as follows:

Resistance has been primarily in union negotiations, where we were originally asked to put on more men. We asked for a reasonable trial period, got it, and such union requests have diminished considerably. Now the unions request more money for the jobs because of "increased responsibilities," but we rarely concede.--Leonard C. Menius, Personnel Director, East Texas Pulp & Paper Co., Silsbee, Texas.

* * *

Automation has become general in the industry, and the unions have constantly attempted to negotiate the number of men required for specific operations.--Harold H. Wegman, Bavarian Brewing Co., Inc., Covington, Ky.

* * *

Resistance to the limited amount of automation which we have has taken two forms: (1) Attempts on the part of the union to maintain at least as high a classification on the automated job as established for the replaced operation. (2) Resistance to incentive rates where a substantial

production increase was indicated. The union seeks more than a fair time-studied rate under these circumstances and in an informal way expects to share in the gain.--Personnel executive, larger midwestern company.

EDUCATING EMPLOYEES TO ACCEPT AUTOMATION

In trying to educate employees to accept automation, companies make use of their regular communications channels--employee meetings, house organs, letters from the company president, discussions with union representatives, distribution of material, personal contact by supervisors, and the like. Of these media, the group discussion appears particularly successful, as the following comments suggest:

> At our regular monthly meetings, employees were briefed on the program--how it would operate, who were affected, and the results. Questions were answered, apparently to the satisfaction of everyone.--D.C. Wester, Employee Relations Director, Kentucky Utilities Co., Lexington, Ky.
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> We gave a personal explanation by the department head and/or supervisor with group participation in discussion. The personal touch seems to assure employees that there is nothing to fear.--Ross C. Cibella, Personnel Manager, Hagan Chemicals & Controls, Inc., Pittsburgh, Pa.

As for the specific approach which companies take in trying to "sell" automation, a number stress the need of keeping competitive. In some cases they have found it useful to soft-pedal the word "automation," which has taken on some unpleasant connotations for some employees. Examples of these approaches are seen in the following comments by the Panel:

> We carried on an educational program based on the need of meeting competition, and we used letters from the company president and personal contact by all supervision to help sell the need.--Harold H. Wegman, Personnel Director, Bavarian Brewing Company, Inc., Covington, Ky.
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> We have pointed out to union officials that production process improvement is imperative for the welfare of all employees.--F.W. Salyer, Industrial Relations Director, Collins Radio Co., Burbank, Calif.
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> * * *
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> We feel that the term "automation" is highly overworked and has taken on the proportions of a "bugger" in the industrial closet. The workers fear it, and too many employers have used it as a scare technique. We are approaching this problem from another direction. We simply tell our employees and our union representatives that in order to be competitive, thereby establishing and maintaining job security for employees, we must be ever on the alert to develop cheaper and more efficient methods of producing better quality products.--Harold L. Colvin, Industrial Relations Manager, The Nestlé Co., Inc., White Plains, N.Y.
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> Without the label of automation we find such (mechanical) improvements to be generally accepted as a necessary incident of progress.--Hugh A. Black, Industrial Relations Director, The Mead Corp., Chillicothe, Ohio.

A couple of other approaches that individual companies take to make automation more acceptable to employees are outlined in the remarks below:

> Employees are always told that new equipment is an improvement and no loss to them, and that it actually improves their status as more valued employees.--H.C. Lundquist, Personnel Director, White Laboratories, Inc., Kenilworth, N.J.
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> We give a constant reminder that the number of employees is steadily increasing.--H.G. Counsman, Personnel Director, General Telephone Co. of Indiana, Inc., Fort Wayne, Ind.

PREVIOUS PERSONNEL POLICIES FORUM SURVEYS

1. Manpower Planning for the Emergency, March, 1951
* 2. Status of First-Line Supervisors (Compensation, Authority, and Benefits for Foremen), April, 1951
3. Is Management Listening? May, 1951
4. Plant Labor-Management Committees, June, 1951
5. Recruiting College Graduates, July, 1951
6. Employees' Financial Problems, August, 1951
7. Christmas and Year-End Personnel Problems, October, 1951
* 8. Foreman Training, January, 1952
* 9. The Personnel Executive (His Title, Functions, Staff, Salary and Status), February, 1952
* 10. White-Collar Office Workers (Their Working Conditions, Benefits and Status), April, 1952
11. Executive Development, May, 1952
12. Building Employee Morale, July, 1952
13. Choosing Better Foremen, August, 1952
* 14. Supervisory Merit-Rating, September, 1952
15. Communications to Employees, November, 1952
16. Fringe Benefits for Supervisors, January, 1953
17. The Personnel-Industrial Relations Function, March, 1953
* 18. Community Relations, August, 1953
19. Personnel Testing, September, 1953
20. The Older Worker, October, 1953
21. Administration of Pension Plans, November, 1953
22. Earnings of First-Line Supervisors, January, 1954
23. Evaluating a Personnel-Industrial Relations Program, February, 1954
24. Employment Stabilization, April, 1954
25. Administration of Health and Welfare Plans, July, 1954
26. Control of Absenteeism, September, 1954
27. Computing Absenteeism Rates, October, 1954
28. Wage-Salary Administration, November, 1954
29. Company Safety Programs, February, 1955
30. Unemployment Compensation Problems, May, 1955
31. Supervisory Development: Part 1, July, 1955
32. Supervisory Development: Part 2, September, 1955
33. Automation, November, 1955
34. Nonsupervisory Office Employees, December, 1955
35. Downward Communications, February, 1956
36. Military Leave Policies, May, 1956
37. The Executive, July, 1956
38. Medical Services for Employees, August, 1956
39. Professional Employees, October, 1956
40. Job Evaluation, December, 1956
41. Merit Rating of Rank-and-File Employees, February, 1957
42. Disciplinary Practices and Policies, July, 1957
43. Employee Job Satisfaction, September, 1957
44. Company Aid to Education, November, 1957
45. Executive Compensation, December, 1957

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* Out of print.